Planning Commission Date: October 13, 2004 Item No. *6

MILPITAS PLANNING COMMISSION AGENDA REPORT

Category: Public Hearing Report prepared by: Staci Pereira

Public Hearing: Yes: __X__ No: _____

Notices Mailed On: 10/1/04 Published On: 9/30/04 Posted On: 10/1/04

TITLE:	**USE PERMIT NO. UP2004-19 AND "S" ZONE APPROVAL AMENDMENT NO. SA2004-73**
Proposal:	A request to install three (3) panel antennas within the penthouse and associated mechanical equipment atop the Crown Plaza Hotel.
Location:	777 Bellew Drive (APN: 086-47-002)
RECOMMENDATION:	**Approval with conditions**
Applicant:	Sprint PCS, Attention: Kristina Woerner, 185 Berry Street #5300, San Francisco, CA 94107
Property Owners:	BHR Operations, LLC, dba Crowne Plaza Milpitas, 777 Bellew Drive, Milpitas, CA 95035
Previous Action(s):	"S" Zone approval and amendments, use permits
Environmental Info:	Exempt
General Plan Designation:	Highway Services
Present Zoning:	Highway Services
Existing Land Use:	Hotel
Agenda Sent To:	Applicant and owner
Attachments:	Plans, photo simulations, wireless site maps, telecommunications questionnaire, power density study
PJ No.	2385

BACKGROUND

On May 7, 1985, the Planning Commission approved "S" Zone and Use Permit (No. 707) applications for a 12-story hotel. Subsequent approvals include freestanding and building signs, roof screen interpretation for a 13-foot tall cooler, a pedestrian walkway, and numerous use permits for telecommunication antennas.

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Site Description

The subject site is located on the north side of Bellew Drive immediately south of Highway 237, east of McCarthy Boulevard and west of Highway 880. The subject site is zoned Highway Service, while the surrounding properties are zoned Industrial Park, Highway Service and General Commercial. Uses in the adjacent area include office and R&D industrial campuses, shopping centers, hotels, and a gas station.

A 12-story, 132-foot tall hotel resides on the subject site. There are numerous visible antennas atop the hotel. These antennas were approved prior to the City's policy of requiring stealth designs for telecommunication facilities.

THE APPLICATION

The Use Permit application is submitted pursuant to Section 57.02-15.1 (telecommunications antenna facility as a conditional use) and the "S" Zone Approval Amendment is pursuant to Section 42.10-2 (Applications for modifications or amendment) of the Milpitas Zoning Ordinance.

Project Description

The applicant is requesting to install 3 new panel antennas atop the Crowne Plaza Hotel. The new antennas would reside within the existing 9-foot tall penthouse (northwest side) located on top of the 132-foot tall building. The antennas would be covered with a material called Dryvit, an exterior insulation and finish system designed to restore buildings, which would then be painted to match the existing exterior color of the penthouse. The associated mechanical equipment cabinet and a GPS antenna is proposed on the building's rooftop behind the existing 9-foot tall parapet.

Conformance with the General Plan

The proposed project complies with the City's General Plan in terms of Policy 2.a-I-7. The proposed project provides a service that supports surrounding businesses, which can assist in expanding employment, facilitating communications and promoting business retention. In addition to supporting local businesses, the telecommunications facility also supports Milpitas residents and I-880 and Highway 237 travelers.

Conformance with the Zoning Ordinance

The project complies with the City's Zoning Ordinance, which allows for telecommunications facilities as conditional uses in all zoning districts. As previously mentioned, this facility will support local businesses, especially those intended in the Highway Service District and the surrounding industrial park area uses, such as offices and R&D campuses.

Conformance with the "S" Zone Combining District

The project complies with the "S" Zone Combining District in that the minor building modification is attractive and harmonious with the subject building and adjacent ones. The new panel antennas would be mounted within the existing 9-foot tall penthouse and the exterior would be resurfaced and painted to match the penthouse. The associated 6-foot tall mechanical

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equipment and GPS antenna would all reside on the rooftop well below the building's 9-foot tall parapet. Since the antennas would not be visible from public view, staff concludes that no adverse visual impacts would result from the proposed project.

ISSUES

Community Impact

The project is not anticipated to create any adverse impacts to surrounding land uses, in terms of traffic, parking, noise, odors or radio frequency emissions. Antenna sites are unmanned, and once installed, only require maintenance and repairs as needed, therefore no impacts on traffic or parking are anticipated. In addition, the antennas do not generate any noise and the associated equipment proposed on top of the building is not anticipated to create any noise impacts. Also, no odors are associated with this type of telecommunications facility.

Radio Frequency Emissions

In terms of radio frequency emissions, the Federal law preserves the City's authority to regulate the placement, construction, and modification of personal wireless service facilities (47 U.S.C. 332((c)(7)(A).) However, federal law does impose a limitation on this authority in the area of radio frequency (RF) emissions. The City is prohibited by federal law from regulating the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of RF emissions to the extent the facilities comply with the Federal Communications Commission's (FCC) regulations concerning such emissions. (47 U.S.C. 332(c)(7)(B)(iv).

FCC Guidelines. The FCC has established guidelines that place limits on human exposure to RF fields generated by personal wireless service facilities. These guidelines have been endorsed by the U.S. Environmental Protection Agency and the Food and Drug Administration. The FCC requires all personal wireless facilities to comply with these guidelines.

City Requirements. The City, however, may still verify that applicants are in compliance with the FCC's guidelines. Therefore, the City requires applicants applying for use approval for any telecommunications device to submit a power density report. This report is reviewed by the City's Telecommunications Advisory Commission to ensure compliance with the FCC's guidelines. To the extent that an applicant's facilities, as proposed, are not in compliance with the FCC's guidelines, the City may require the applicant to make appropriate modifications to the facilities to ensure compliance.

Telecommunications Commission Review

The City's Telecommunications Commission reviewed this project on September 20, 2004, and concluded that the application is in compliance with the FCC guidelines. The Commission's standard conditions of approval of an emergency shut-down sign, have been included in the Special Conditions in order to ensure continued compliance with the FCC guidelines.

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Conformance with CEQA

The proposed project is categorically exempt from further environmental review pursuant to Class 1, Section 15301 ("Existing Facilities"—"... permitting, ... licensing ... of existing ... private structures ... involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination") of the California Environmental Quality Act (CEQA) Guidelines.

RECOMMENDATION

Close the Public Hearing. Approve Use Permit No. UP2004-19 and "S" Zone Approval Amendment No. SA2004-73 based on the Findings and Special Conditions of Approval listed below.

FINDINGS

1. The proposed project complies with the City's General Plan in terms of Policy 2.a-I-7 in that it provides a service that supports surrounding businesses, which can assist in expanding employment, facilitating communications and promoting business retention.

2. The project complies with the City's Zoning Ordinance in that it allows for telecommunications facilities as conditional uses in all zoning districts and that it will support local businesses in the Highway Service and surrounding districts.

3. The project complies with the "S" Zone Combining District in that the minor building modification is attractive and harmonious with the subject building and adjacent ones and no adverse visual impacts would result from the proposed project.

4. The project is not anticipated to create any adverse impacts to surrounding land uses, in terms of traffic, parking, noise, odors or radio frequency emissions, or to the public health, safety and general welfare.

5. The proposed project is categorically exempt from further environmental review pursuant to Class 1, Section 15301 (Existing Facilities) of the State CEQA Guidelines.

SPECIAL CONDITIONS

1. This Use Permit No. UP2004-19 approval is for the installation of three (3) telecommunications antennas within the existing 9-foot tall penthouse (northwest side) and associated mechanical equipment and GPS antennas on the rooftop below the existing parapet, as shown on the approved plans dated October 13, 2004. Any modifications to the conditions of approval require Planning Commission approval of an amendment to this Use Permit and a public hearing. (P)
2. This "S" Zone Approval Amendment No. SA2004-173 approval is for the exterior modifications associated with the antennas and equipment, which shall complement the building materials and match the existing building colors, as depicted on the approved plans dated October 13, 2004 and as modified by the conditions within this approval. (P)

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3. Prior to building permit issuance, the plans shall indicate the existing building's materials and colors and the proposed parapets materials and colors. (P)

4. Prior to building permit issuance, the applicant shall submit a revised roof plan indicating all existing telecommunication antennas located on and within the building and indicate which antennas are operating, who is the carrier and which ones have been abandoned. Staff shall ensure that all of the telecommunication antennas have obtained conditional use permits and require the applicant to remove all non-permitted and abandoned antennas. (P)

5. Prior to certificate of occupancy issuance, the applicant shall remove all non-permitted and abandoned telecommunications antennas. (P)

6. Prior to building permit issuance, as required by the Telecommunication Commission, the plans shall indicate the location to be labeled for the hazard with a sign approved for location and content by the Fire Department. (F)

7. Prior to certificate of occupancy issuance, the exterior modifications shall match the existing building, no antennas shall be visible and no equipment shall exceed the height of the existing parapet. (P)

8. If at the time of application for building permit there is a project job account balance due to the City for recovery of review fees, review of permits will not be initiated until the balance is paid in full. (P)

9. If at the time of application for a certificate of occupancy there is a project job account balance due to the City for recovery of review fees, a certificate of occupancy shall not be issued until the balance is paid in full. (P)

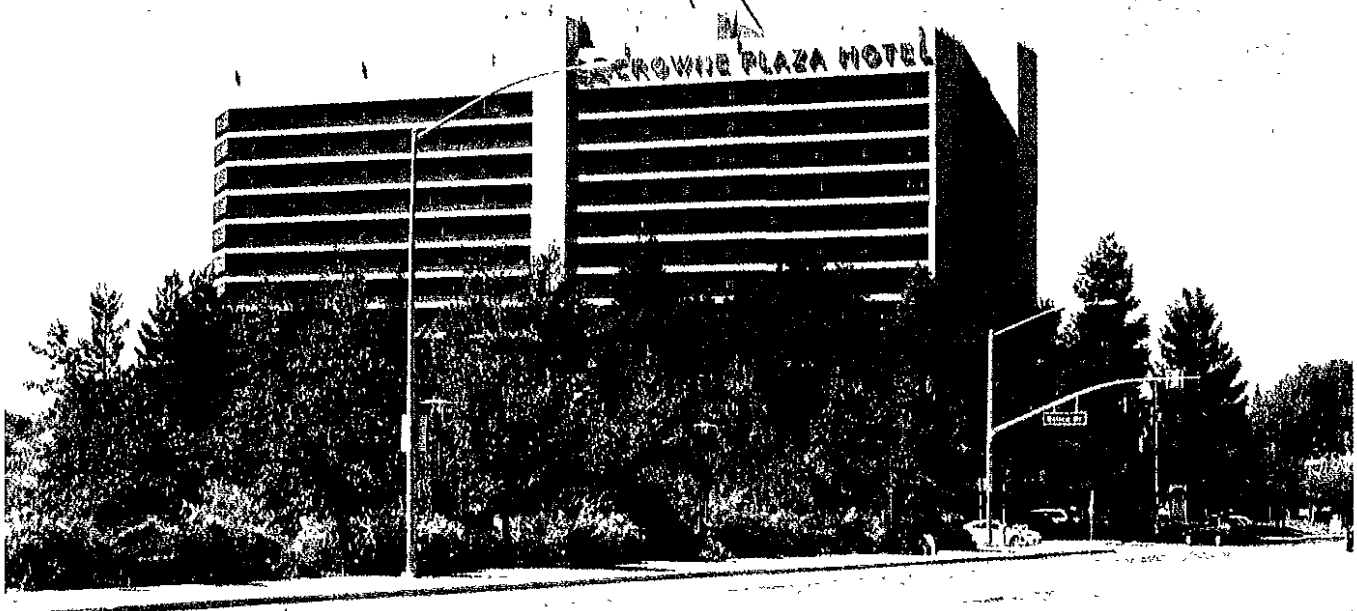
10. This use shall be conducted in compliance with all appropriate local, state, and federal laws and regulations and in conformance with the approved plans. (P)

(P) = Planning Division
(F) = Fire Department

Existing

Looking Northwest from Barber Lane

proposed antennas
not visible behind screening



Proposed

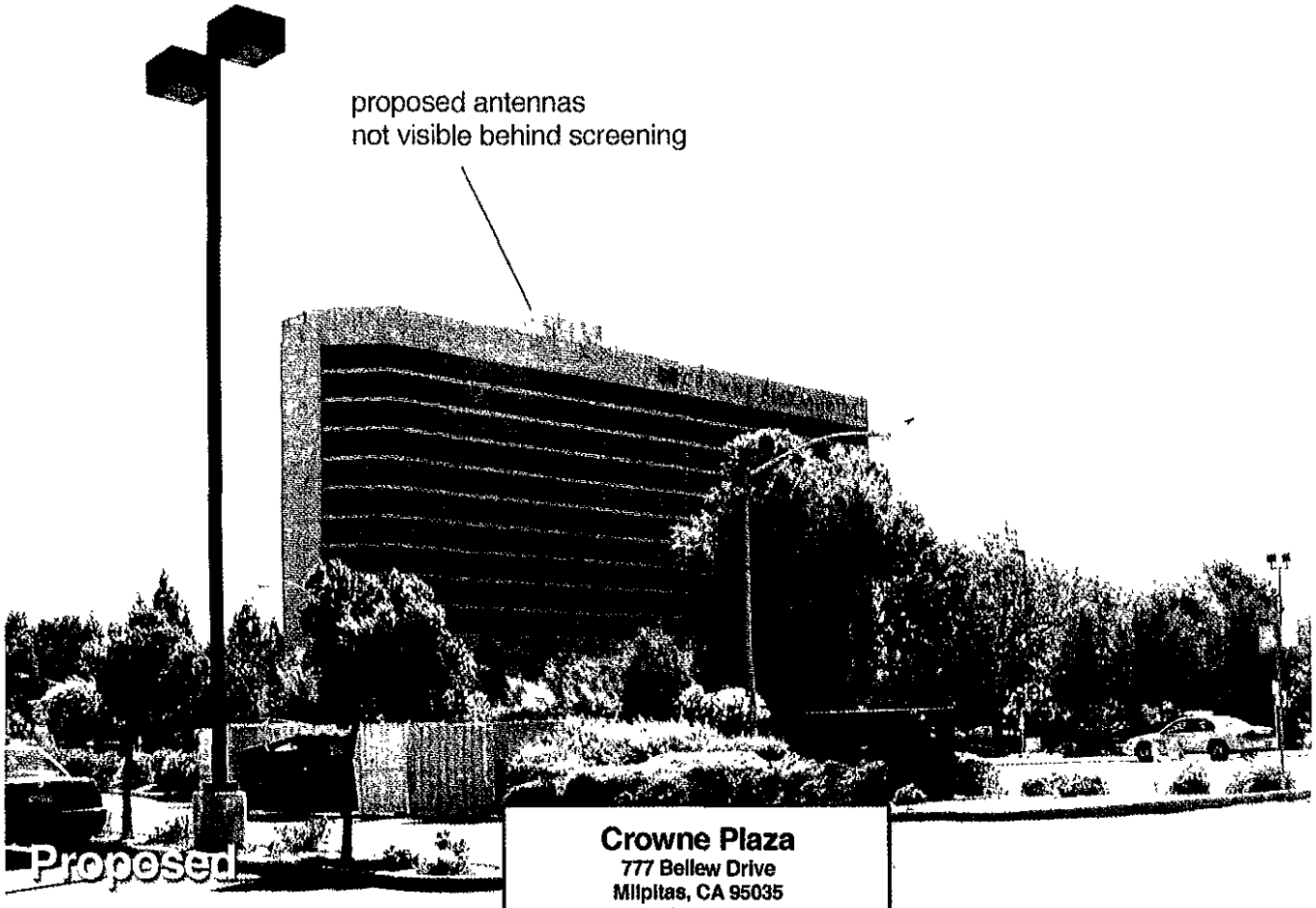
Crowne Plaza
777 Bellew Drive
Milpitas, CA 95035
Site # SF60XC857A

Sprint PCS 9/3/04

Photosimulation by Applied Imagination 510 914-0500

Existing

Looking South from Barber Lane



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Sprint PCS 9/3/04

Photosimulation by Applied Imagination 510 914-0500

THE ALARIS GROUP, LLC

Project Description
Sprint PCS Antennas
Crown Plaza, 777 Bellew Drive

This project consists of the installation and operation of (3) SPRINT PCS wireless antennas and associated equipment cabinets.

The panel antennas will be recessed and mounted to the inside of the existing penthouse of the building located at 777 Bellew Drive. The antennas will be covered with a material, painted to match the existing exterior, which allows frequencies to be transmitted through, so that they are not visible to someone outside the building. The material Sprint has proposed to use is Dryvit, an exterior insulation and finish system that is designed to restore buildings. Due to the fact that Dryvit does not deflect or interfere with radio waves, RF engineers/wireless companies commonly install this instead of fiberglass when stealthing a project, such as this one.

The equipment cabinets will be located on the rooftop. The cabinet height will be below the existing rooftop parapet, so they will not be seen from ground level. The cabinets, in addition to a GPS antenna, will be located within a 12' x 20' lease area.

185 BERRY STREET, SUITE 5300
SAN FRANCISCO, CA 94107

SFL0XC857

City of Milpitas
Planning Division
455 E. Calaveras Blvd.
Milpitas, CA 95035
(408) 586-3279

Questionnaire for Telecommunication Facility Providers

All applicants requesting to install telecommunications facilities within the City of Milpitas must complete this questionnaire as part of their use permit application submittal.

Applicant Name: Kristina Woerner / Sprint PCS

Applicant Address: 185 Berry St. Suite 5300 San Francisco CA 94107

Applicant Phone: (415) 495-3579

Applicant Fax and e-mail address: (415) 495-6277 kwoerner@thealarisgroup.com

Provide a brief description of project (Telecommunications Facility): New Sprint PCS wireless antenna + associated equipment mounted on ex. 135'-9" building. Equipment will be placed on beams on rooftop

Location of Project: 777 Bellew Drive

1. Please indicate below the frequency range you plan to use?

- ☐ VHF Low-Band (30-50 Mhz or 72-76 Mhz)
- ☐ VHF High-Band (136-174 Mhz or 220-222 Mhz)
- ☐ UHF or T-Band (406-420 Mhz or 450-470 Mhz or 470-512 Mhz)
- ☐ 800 or 900 Mhz Band (800-960 except 900 Mhz Spread Spectrum)
- ☐ 900 Mhz Spread Spectrum (902-928 Mhz)
- ☒ Other than specified above (State frequency band in Mhz). Describe: PCS "A" Band, 1930-1945 Mhz, 1850-1865 Mhz.

2. Please indicate below the channel/system proposed for use?

- ☐ A single channel
- ☐ Multiple channel
- ☐ A frequency agile system
- ☒ A spread spectrum system
- ☐ Other than specified above. Describe: _____

3. Please indicate below the frequency range you plan to use?

- ☐ Narrow band (±5 Khz or less deviation)
- ☐ Broad band (greater than ±5 Khz deviation)
- ☒ Spread Spectrum
- ☐ Other than specified above. Describe: _____

4. What will be the effective radiated power (ERP) be when all channels at your proposed site are radiating? 1071 W or (60.3 dBm (max) Will the site be in compliance with current ANSI radiation health standards? yes

5. What horizontal radiation pattern is planned for this project?

☐ Omnidirectional
☒ Sectored
☐ Directional (provide half power beam width) _____

6. What will the vertical radiation angle (half power beam width) be for your proposed antenna(s)?
7 degrees

7. How high above the local terrain (e.g., surrounding structures) will the center of radiation of your proposed antenna(s) be? 150' feet

8. How close to your proposed project is the nearest roadway 300 feet/miles and, if elevated, what is the roadway's height above the local terrain? 0 feet

9. How close to your proposed project is the nearest regularly occupied building and how high is the top floor above local terrain? on ex. building - 100' above ground

10. What is the distance to the nearest existing radio communications or broadcast antenna(s) if less than ½ mile? 0' feet/miles. Answer question 1 for such existing antenna(s) and identify owner/operator, if known. * next to ex. carriers on rooftop

11. What is the status of your FCC license grant? Active
(Include a "copy of the license with submittal of this questionnaire.)

NOTE: The below listed items are required by the applicant as part of this submittal:

a) Provider's build-out map* showing all sites anticipated within Milpitas (see question no. 2)

b) Photo simulations** of antenna(s) as viewed from at least three surrounding view points. Show "worst case" vantage points.

c) List of all sites that were investigated** for a particular search ring and the reasons why they were discarded. Include names and phone numbers of persons contacted regarding potential sites.

d) Copy of applicants Power Density Study* (see item no. 4).

* 20 copies (Telecommunication Commission)
** 35 copies (Telecommunication Commission & Planning Commission)

Back of
Telecommunication Questionnaire

ULS License

PCS Broadband License - KNLF208 - WIRELESSCO, L.P.

Call Sign	KNLF208	Radio Service	CW - PCS Broadband
Status	Active	Auth Type	Regular
Market			
Market	MTA004 - San Francisco-Oakland-San Jose	Channel Block	A
Submarket	1	Associated Frequencies (MHz)	1850.00000-1865.00000 1930.00000-1945.00000
Dates			
Grant	06/23/1995	Expiration	06/23/2005
Effective	07/23/2001	Cancellation	
Buildout Deadlines			
1st	06/23/2000	2nd	06/23/2005
Notification Dates			
1st	06/22/2000	2nd	09/04/2001

Licensee

Licensee ID	L00009113	FRN	0002316545	Type	Partnership
SGIN	000				

Licensee

WIRELESSCO, L.P.
401 9TH STREET, NW, SUITE 400
WASHINGTON, DC 20004
ATTN LUISA L. LANCETTI

P:(202)585-1923
F:(202)585-1892
E:LUISA.L.LANCETTI@MAIL.SPRINT.COM

Contact

Sprint PCS
ANTHONY C TRAINI
401 9th Street, NW, Suite 400
WASHINGTON, DC 20004

P:(202)585-1925
F:(202)585-1892
E:ATRAIN01@SPRINTSPECTRUM.COM

Qualifications, Ownership, and Demographics

Radio Service Type Mobile

Regulatory Status Common Carrier Interconnected? Yes

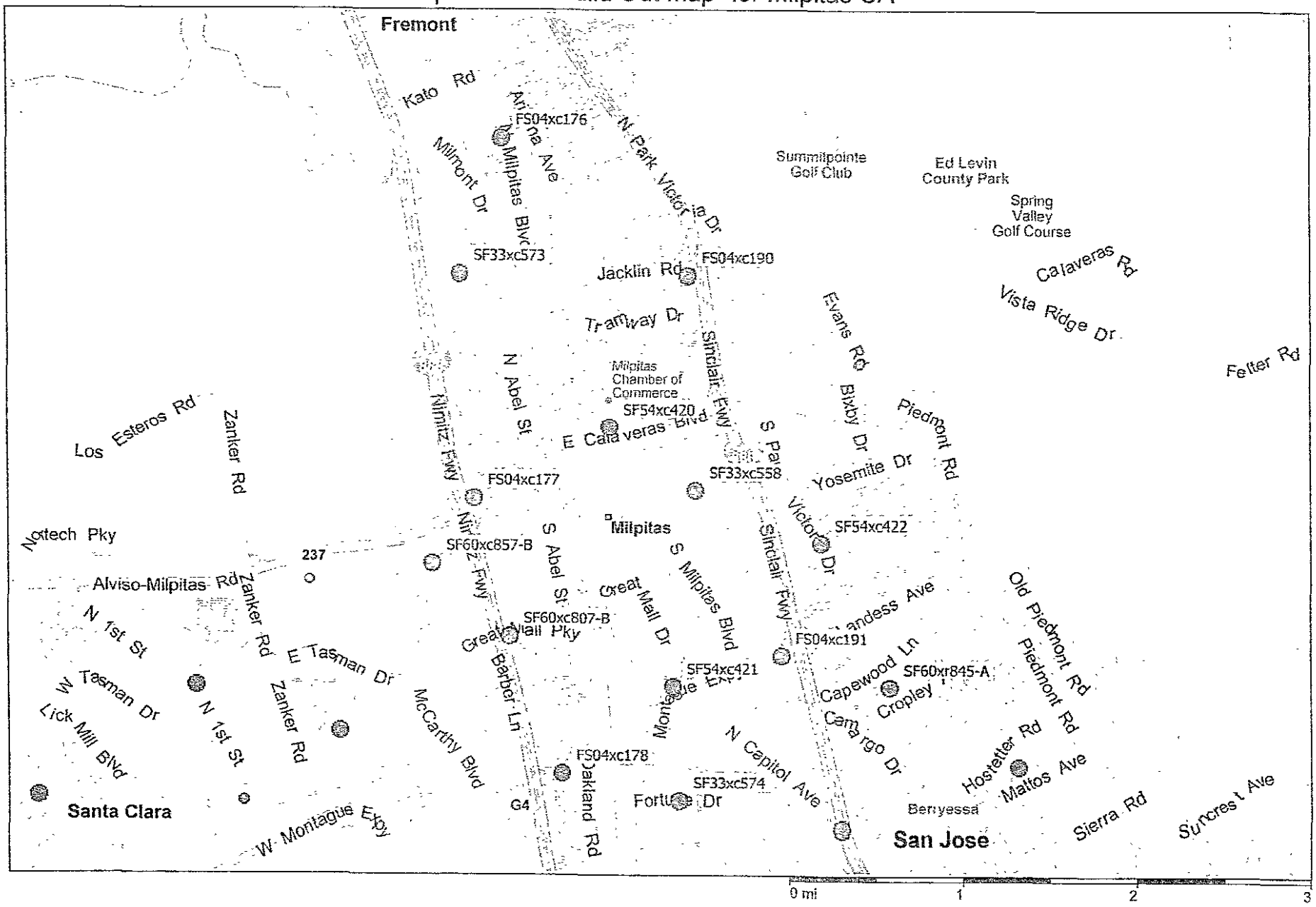
Alien Ownership
The Applicant answered "No" to each of the Alien Ownership questions.

Basic Qualifications
The Applicant answered "No" to each of the Basic Qualification questions.

Tribal Land Bidding Credits
This license did not have tribal land bidding credits.

Race

Sprint PCS "Build Out Map" for Milpitas CA

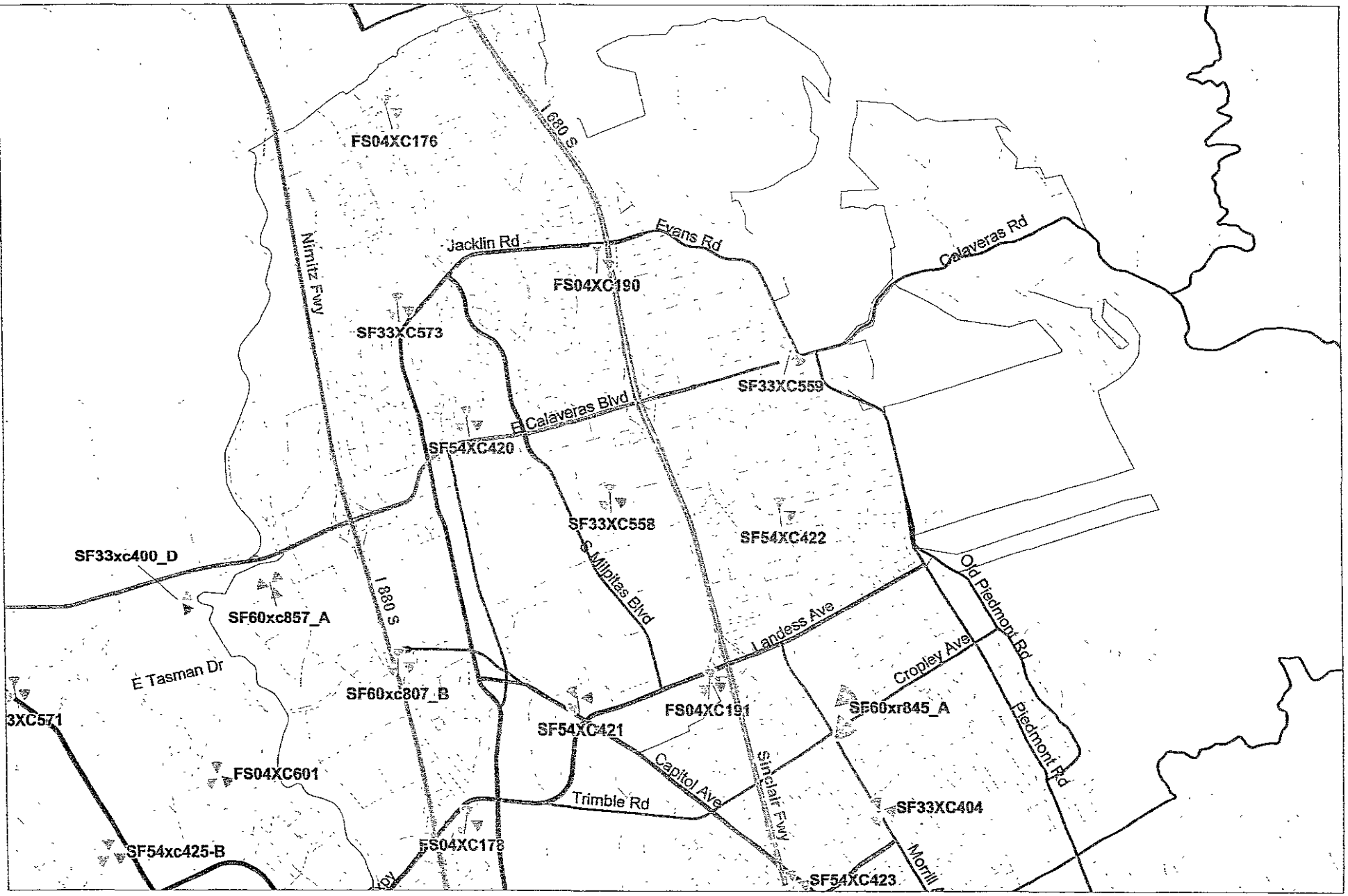


Sprint PCS "Existing ON-AIR sites" and "Proposed Sites" in Milpitas CA city

- Proposed Sites (all magenta color): SF60xc807-B, and SF60xc857-A
- Existing ON-AIR sites (tri-color): FS04xc176, FS04xc190, SF33xc573, SF33xc559, SF54xc420, SF33xc558, SF54xc422, FS04xc191, and SF54xc421.

Sprint

Date: Mon 01-Mar-2004
Scale: 1" = 0.675 mi



THE ALARIS GROUP, LLC

Alternate Site Locations
Crown Plaza Hotel
777 Bellew Drive

The proposed Sprint PCS wireless antennas and associated equipment are located at 777 Bellew Drive. The antennas and equipment both will be located on the existing rooftop.

Sprint PCS did not consider any other locations for this search ring. Due to the presence of other antennas and dishes on this building, such as XM Satellite Radio, it seemed to be the most feasible location. This site gave Sprint the height and coverage that they needed, so they did not feel it necessary to look elsewhere. It is anticipated that this site would provide the least amount of problems because there are already antennas on the building.

Sprint PCS • Proposed Base Station (Site No. SF60xc857A)
777 Bellew Drive • Milpitas, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Sprint PCS, a wireless telecommunications carrier, to evaluate the base station (Site No. SF60xc857A) proposed to be located at 777 Bellew Drive in Milpitas, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. In Docket 93-62, effective October 15, 1997, the FCC adopted the human exposure limits for field strength and power density recommended in Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent Institute of Electrical and Electronics Engineers ("IEEE") Standard C95.1-1999, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes nearly identical exposure limits. A summary of the FCC's exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

The most restrictive thresholds for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Personal Wireless Service	Approx. Frequency	Occupational Limit	Public Limit
Personal Communication ("PCS")	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870	2.90	0.58
Specialized Mobile Radio	855	2.85	0.57
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "cabinets") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables about 1 inch thick. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward

the horizon, with very little energy wasted toward the sky or the ground. Along with the low power of such facilities, this means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 attached describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Sprint, including zoning drawings by MSA Architecture & Planning, Inc., dated December 18, 2003, it is proposed to mount three Andrew Model UMWD-065-16-XDM directional panel antennas on the side walls of the mechanical equipment penthouse above the Crowne Plaza Hotel located at 777 Bellew Drive in Milpitas. The antennas would be mounted at an effective height of about 133 feet above ground, 14 feet above the roof, and would be oriented at 120° spacing, to provide service in all directions. The maximum effective radiated power in any direction would be 1,000 watts.

Presently located on or above the same penthouse are several omnidirectional "whip" antennas for use by Arch Wireless, a paging carrier, by Nextweb, a wireless internet provider, by Shadow Broadcast, a cable programming supplier, by XM Satellite Radio, and by the local Fire Department. For the purposes of this study, it is assumed that the combined maximum effective radiated power for all the whip antennas is 3,000 watts. Also mounted above the penthouse are several microwave "dish" antennas.

Study Results

The maximum ambient RF level anywhere at ground level due to the proposed Sprint operation by itself is calculated to be 0.000070 mW/cm^2, which is 0.0070% of the applicable public exposure limit. The maximum calculated cumulative level at ground for the simultaneous operation of all carriers is 0.50% of the public exposure limit; the maximum level on the roof of the subject building is 45% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels. The microwave dish

antennas are in point-to-point service and are so directional that they make no significant contribution to RF exposure conditions at ground level.

Recommended Mitigation Measures

Since they are mounted above the roof of the building, the antennas are not accessible to the general public, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, no access within 5 feet in front of the Sprint antennas themselves, such as might occur during building maintenance activities, should be allowed while the site is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory warning signs* at roof access location(s) and at the antennas, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines. Similar measures should already be in place for the other carriers at the site; applicable keep-back distances have not been determined as part of this study.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that the base station proposed by Sprint PCS at 777 Bellew Drive in Milpitas, California, can comply with the prevailing standards for limiting human exposure to radio frequency energy and, therefore, need not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

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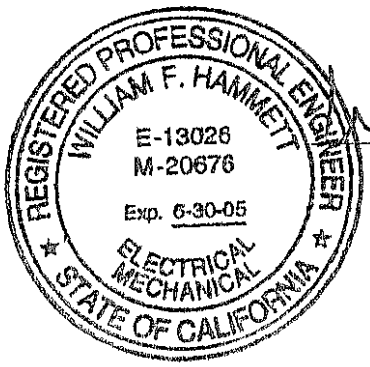
* Warning signs should comply with ANSI C95.2 color, symbol, and content conventions. In addition, contact information should be provided (*e.g.*, a telephone number) to arrange for access to restricted areas. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.

Sprint PCS • Proposed Base Station (Site No. SF60xc857A)
777 Bellew Drive • Milpitas, California

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2005. This work has been carried out by him or under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.



William F. Hammett, P.E.

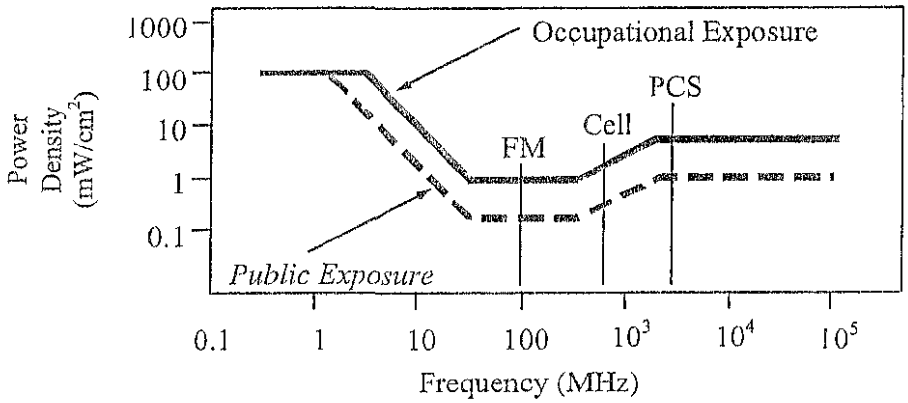
March 8, 2004

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements, which are nearly identical to the more recent Institute of Electrical and Electronics Engineers Standard C95.1-1999, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz." These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/f*	1.63	*2.19/f*	100	*180/f^2*
3.0 – 30	1842/f	*823.8/f*	4.89/f	*2.19/f*	900/f^2	*180/f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	3.54$\sqrt{f}$	*1.59$\sqrt{f}$*	$\sqrt{f}$/106	*$\sqrt{f}$/238*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications cell sites. The near field zone is defined by the distance, D, from an antenna beyond which the manufacturer's published, far field antenna patterns will be fully formed; the near field may exist for increasing D until some or all of three conditions have been met:

$$1)\ D > \frac{2h^2}{\lambda} \qquad 2)\ D > 5h \qquad 3)\ D > 1.6\lambda$$

where h = aperture height of the antenna, in meters, and
λ = wavelength of the transmitted signal, in meters.

The FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives this formula for calculating power density in the near field zone about an individual RF source:

$$\text{power density}\quad S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}, \quad \text{in } mW/cm^2,$$

where θ_{BW} = half-power beamwidth of antenna, in degrees, and
P_{net} = net power input to the antenna, in watts.

The factor of 0.1 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates distances to FCC public and occupational limits.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density}\quad S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \quad \text{in } mW/cm^2,$$

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

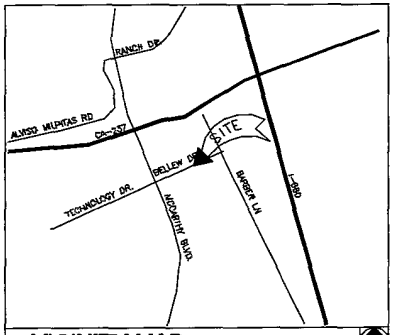
The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

*6

CROWN PLAZA
SF60XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035

SITE TYPE: ROOFTOP

Underground Service Alert of Central/Northern California
CALL: TOLL FREE 1-800-227-2600
TWO WORKING DAYS BEFORE YOU DIG



VICINITY MAP

Directions:
-FROM I-880
-TAKE CA-237 WEST TOWARDS SUNNYVALE-MT.VIEW.
-TAKE THE MCARTHY BLVD EXIT.
-TURN RIGHT ON MCCARTHY BLVD.
-TURN LEFT ON BELLEW DR.

DRIVING DIRECTIONS

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT CABINETS FOR SPRINT WIRELESS TELECOMMUNICATIONS NETWORK. NEW PANEL ANTENNAS CONCEALED WITHIN (E) PENTHOUSE WALL. NEW EQUIPMENT CABINETS MOUNTED ON THE ROOFTOP.

PROJECT DESCRIPTION

APPLICANT/LESSEE

NAME:	SPRINT
ADDRESS:	6580 SPRINT PARKWAY OVERLAND PARK, KANSAS 66251
CONTACT:	CHERI LIPARI
PHONE:	(913) 227-1944

AGENT 1

NAME:	AFL TELECOMMUNICATIONS
ADDRESS:	187 TECHNOLOGY DRIVE IRVINE, CALIFORNIA 92618

AGENT 2

NAME:	THE ALARIS GROUP
ADDRESS:	185 BERRY STREET, SUITE 5300 SAN FRANCISCO, CALIFORNIA 94107
CONTACT:	RYAN CROWLEY
PHONE:	(415) 341-5301

PROPERTY INFORMATION

OWNER:	MILPITAS JOINT VENTURE
ADDRESS:	545 E. JOHN CARPENTER FY, #1300 IRVING, TX 75062
CONTACT:	TOM GARCIA
PHONE:	(323) 908-0777
AREA OF CONSTRUCTION:	±240 SQ. FT.
OCCUPANCY TYPE:	R-1
CONSTRUCTION TYPE:	TYPE II
CURRENT ZONING:	HS
ZONING APPLICATION #:	T.B.D.
LATITUDE:	37° 25' 22.09" N (NAD83)
LONGITUDE:	121° 55' 08.72" W (NAD83)
A.P.N.:	086-47-002
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.

PROJECT SUMMARY

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 1997 UNIFORM BUILDING CODE
2. 2001 CALIFORNIA BUILDING CODE
3. 2001 CALIFORNIA PLUMBING CODE
4. 2001 CALIFORNIA MECHANICAL CODE
5. 2001 CALIFORNIA ELECTRICAL CODE
6. 2001 CALIFORNIA FIRE CODE
7. 2001 CALIFORNIA CODE OF REGULATIONS FOR ENERGY CONSERVATION
8. LOCAL ZONING & BUILDING CODE
9. CITY/COUNTY ORDINANCES

CODE COMPLIANCE

ARCHITECT:

CONSULTANT'S NAME	MSA ARCHITECTURE AND PLANNING, INC.
ADDRESS	208 UTAH STREET, SUITE 2018
CITY, STATE, ZIP	SAN FRANCISCO, CA 94103
CONTACT:	ROBERT ZEHM
PHONE	(415) 503-1363

SURVEYOR:

CONSULTANT'S NAME	INITIAL POINT, INC.
ADDRESS	10062 WOERCHNE DRIVE
CITY, STATE, ZIP	GRASS VALLEY, CA 95945
CONTACT:	TIM SCHAD
PHONE	(530) 477-7177

UTILITIES-ELECTRICAL:

CONSULTANT'S NAME:	PACIFIC GAS AND ELECTRIC
PHONE	(800) 743-5000

UTILITIES-TELEPHONE:

CONSULTANT'S NAME:	SBC
PHONE	(800) 750-2355

PROJECT TEAM

TITLE	SIGNATURE	DATE
SPRINT REPRESENTATIVE		
SPRINT RF ENGINEER		
SITE OWNER		

APPROVAL LIST

SHEET	DESCRIPTION	REV.
T1	TITLE SHEET	3
LS1	SITE SURVEY	3
LS2	DETAILS & LEGAL DESCRIPTION	3
A1	ROOF/SITE PLAN	3
A2	EQUIPMENT AREA PLAN & ANTENNA LAYOUT	3
A3	ELEVATIONS	3

SHEET INDEX

ISSUED FOR: 100% ZONING

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL CONTRACTOR NOTES

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

AFL Telecommunications
WIRELESS SERVICES, INC
187 TECHNOLOGY DR.
IRVINE, CALIFORNIA 92618
Office (530) 263-4339
Fax (415) 495-8277

MSA
Architecture & Planning, Inc.
208 Utah Street, Suite 2018
San Francisco, Ca 94103
415.503.1363 fax 415.503.1362
Santa Ana San Diego San Francisco
email: msa-sgn.com

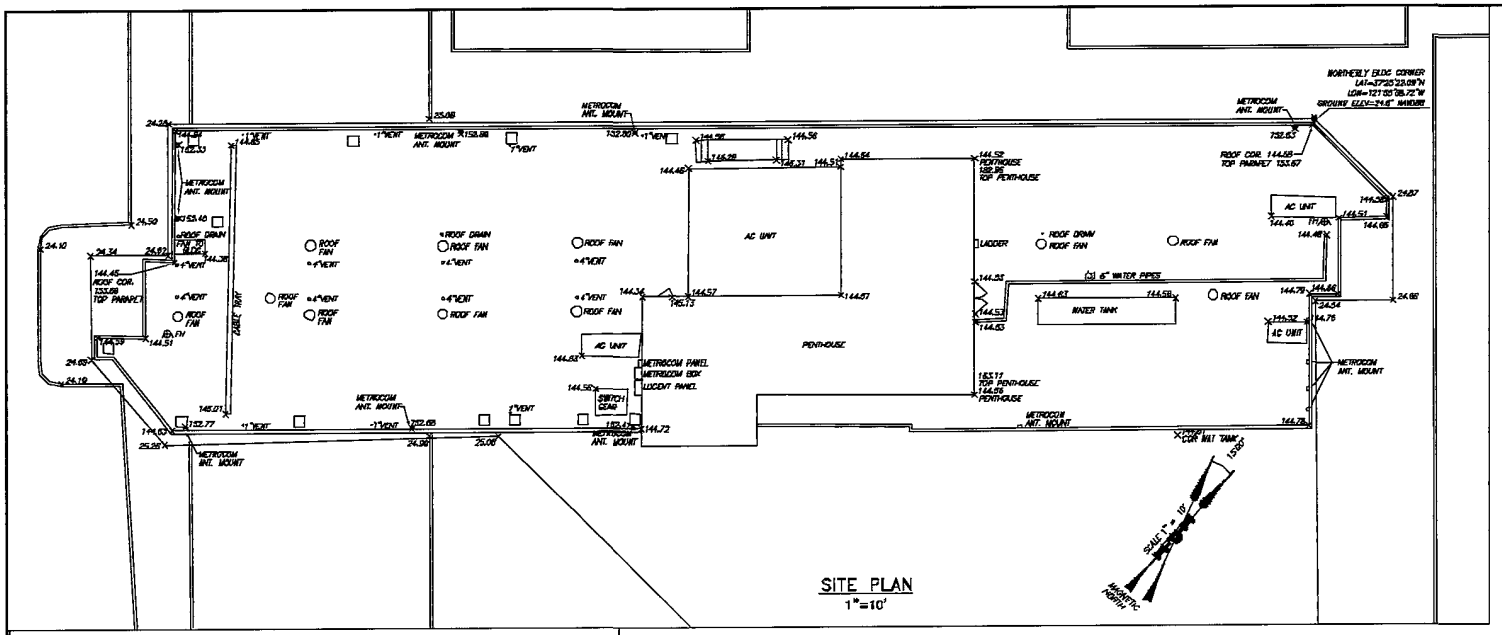
PROJECT NO:	SF60XC857-A
DRAWN BY:	JP
CHECKED BY:	RZ

REV	DATE	DESCRIPTION
0	12/18/03	95% ZONING
1	03/01/04	100% ZONING
2	04/21/04	100% ZONING REV.
3	08/25/04	100% ZONING REV. 2

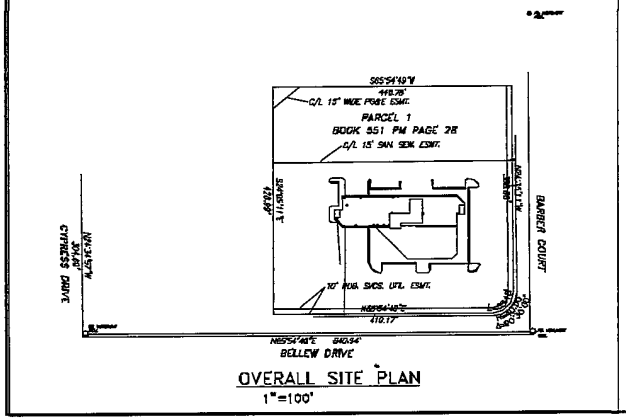
CROWNE PLAZA
SF60XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



SITE PLAN
1"=10'



OVERALL SITE PLAN
1"=100'

LEGEND

- TELEPHONE LINE
- ELECTRIC LINE
- ELECTRIC AND TELEPHONE LINES
- FENCE
- FIRE HYDRANT
- GUY WIRE
- STREET SIGN
- STREET LIGHT
- WATER VALVE
- FS FINISH SURFACE
- FL FLOW LINE
- TC TOP OF CURB
- BFC BOTTOM FACE OF CURB
- TW TOP OF WALL
- BW BOTTOM OF WALL
- TBW TOP BACK OF WALK

Sprint

8520 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

INITIAL POINT, INC.
20068 JOHNSONIA DRIVE
GRASS VALLEY, CA. 95945
PHONE: (530) 477-1777
FAX: (530) 477-0967

PROJECT NO:	SF60XC857-A
DRAWN BY:	CCP
CHECKED BY:	TPS

REV	DATE	DESCRIPTION
0	12/11/03	ORIGINAL SURVEY SENT
1	1/22/04	FINAL SURVEY

TIMOTHY P. SCHELL
LS 6721
Exp. 3/31/05
STATE OF CALIFORNIA

SF60XC857-A
CROWNE PLAZA

777 BELLEW DRIVE
MILPITAS, CA. 95035
SANTA CLARA COUNTY

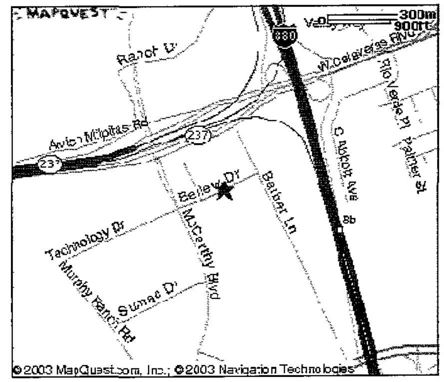
SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS1

LEGAL DESCRIPTION

PARENT PARCEL

PARCEL 1 OF PARCEL MAP FILED IN BOOK [illegible] AT PAGE 27 & 28 OF MAPS, SANTA CLARA COUNTY RECORDS.



VICINITY MAP (N.T.S.)

SURVEY NOTES

1. ALL LATITUDES AND LONGITUDES ARE NAD 83. ALL ELEVATIONS ARE NAVD-88.

2. ALL BOUNDARY INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM RECORD [illegible]

3. DATE OF FIELD SURVEY NOVEMBER 17, 2003.

4. PRELIMINARY TITLE REPORT NO. [illegible] BY COMMONWEALTH TITLE HAS BEEN PROVIDED. ANY EASEMENTS OR OTHER TITLE RELATED ISSUES NOT INCLUDED IN SAID REPORT WHICH ARE PART OF THE TITLE PROCESS MAY OR MAY NOT HAVE BEEN ADDRESSED. INITIAL POINT, INC AND TIMOTHY F. SCHAD, L.S. ACCEPT NO RESPONSIBILITY OR LIABILITY FOR BOUNDARY OR TITLE ITEMS ADDRESSED HEREON. THIS IS NOT A BOUNDARY SURVEY.

2-C ACCURACY CERTIFICATION

DATE OF SURVEY NOVEMBER 17, 2003

Site Name: CROWNE PLAZA HOTEL
Site Number: [illegible]
Site Address: 777 BELLEW DRIVE, MILPITAS, CA [illegible]

Horizontal Datum Source: GPS survey NAD 83

Vertical Datum Source: GPS survey NAVD 88

Structure Type: Roof Top

Latitude: [illegible]
Longitude: [illegible]
Ground Elevation: [illegible]
Building Roof Top: [illegible]
Building Roof Top: [illegible]

CERTIFICATION: [illegible]

LEGEND

Symbol	Description
———	TELEPHONE LINE
———	ELECTRIC LINE
———	ELECTRIC AND TELEPHONE LINES
———	FENCE
	FIRE HYDRANT
	GUY WIRE
	STREET SIGN
	STREET LIGHT
	WATER VALVE
FS	FINISH SURFACE
FL	FLOW LINE
TC	TOP OF CURB
BFC	BOTTOM FACE OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TBW	TOP BACK OF WALK

Sprint

6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

INITIAL POINT, INC.
10049 JOHNSCHER DRIVE
GRASS VALLEY, CA. 95945
PHONE: (530) 477-7177
FAX: (530) 477-6967

PROJECT NO:	SF60XC857-A
DRAWN BY:	CCP
CHECKED BY:	TFS

REV	DATE	DESCRIPTION
0	12/11/03	PRELIM. SURVEY [illegible]
1	1/[illegible]/04	FINAL SURVEY

PROFESSIONAL LAND SURVEYOR
TIMOTHY F. SCHAD
LS 6021
Exp. 3/31/05
STATE OF CALIFORNIA

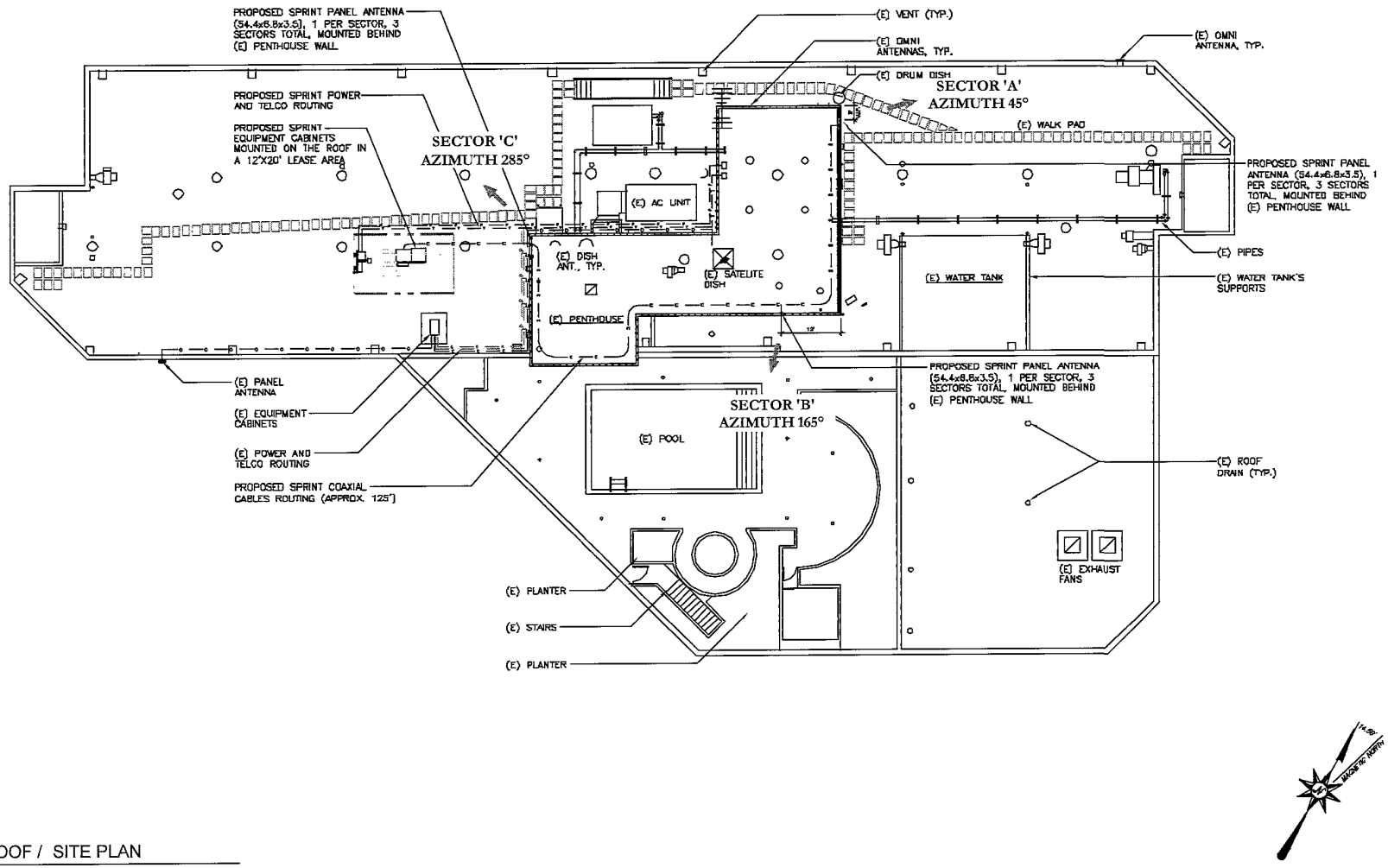
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SF60XC857–
CROWNE PLAZA

777 BELLEW DRIVE
MILPITAS, CA. 95035
SANTA CLARA COUNTY

SHEET TITLE
DETAILS
LEGAL DESCRIPTION

SHEET NUMBER
LS-3



1 / A1 ROOF / SITE PLAN

SCALE: 3/32"=1'-0"

Sprint

6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

AFL Telecommunications
ALCOA WIRELESS SERVICES, INC
167 TECHNOLOGY DR.
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208 Utah Street, Suite 2018
San Francisco, Ca 94103
415.503.1363 fax.415.503.1362
Santa Ana San Diego San Francisco
www.msa-ap.com

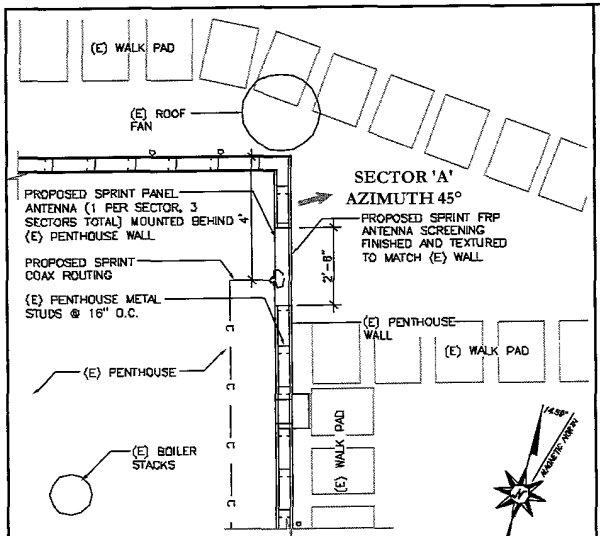
PROJECT NO:	SF60XC857-A
DRAWN BY:	JP
CHECKED BY:	RZ

REV	DATE	DESCRIPTION
0	12/18/03	90% ZONING
1	03/01/04	100% ZONING
2	04/21/04	100% ZONING REV.
3	08/25/04	100% ZONING REV. 2

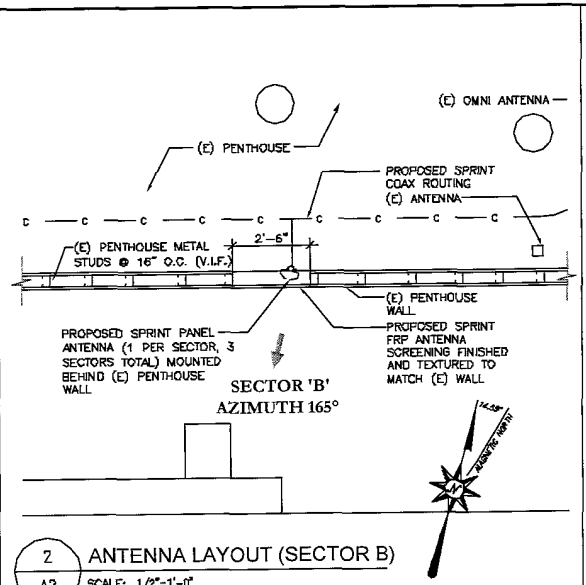
CROWNE PLAZA
SF60XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

SHEET TITLE
ROOF/ SITE PLAN

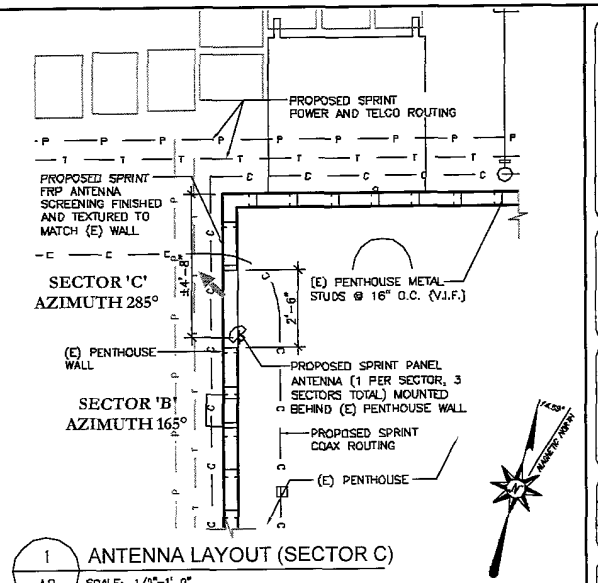
SHEET NUMBER
A-1



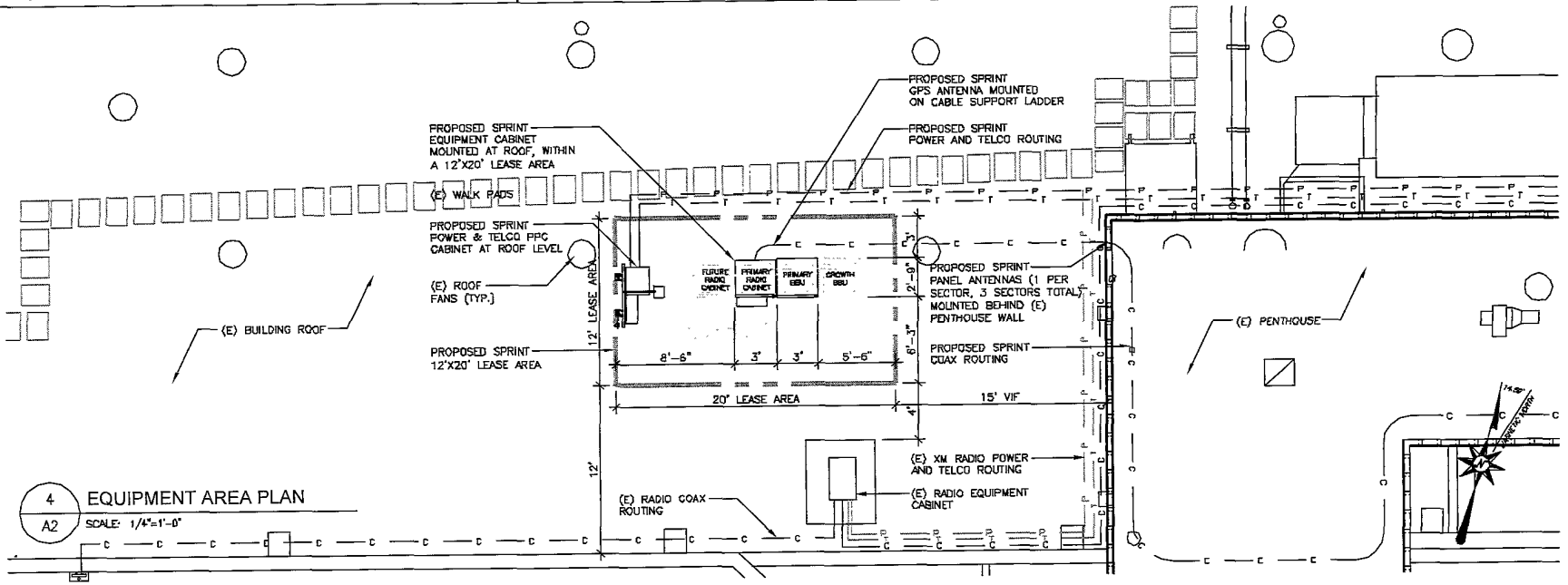
3 / A2 ANTENNA LAYOUT (SECTOR A)
SCALE: 1/2"=1'-0"



2 / A2 ANTENNA LAYOUT (SECTOR B)
SCALE: 1/2"=1'-0"



1 / A2 ANTENNA LAYOUT (SECTOR C)
SCALE: 1/2"=1'-0"



4 / A2 EQUIPMENT AREA PLAN
SCALE: 1/4"=1'-0"

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

AFL Telecommunications
WIRELESS SERVICES, INC
167 TECHNOLOGY DR.
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208 Utah Street, Suite 2013
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415 503.1363 fax 415.503.1362
Santa Ana San Diego San Francisco
www.msa-ap.com

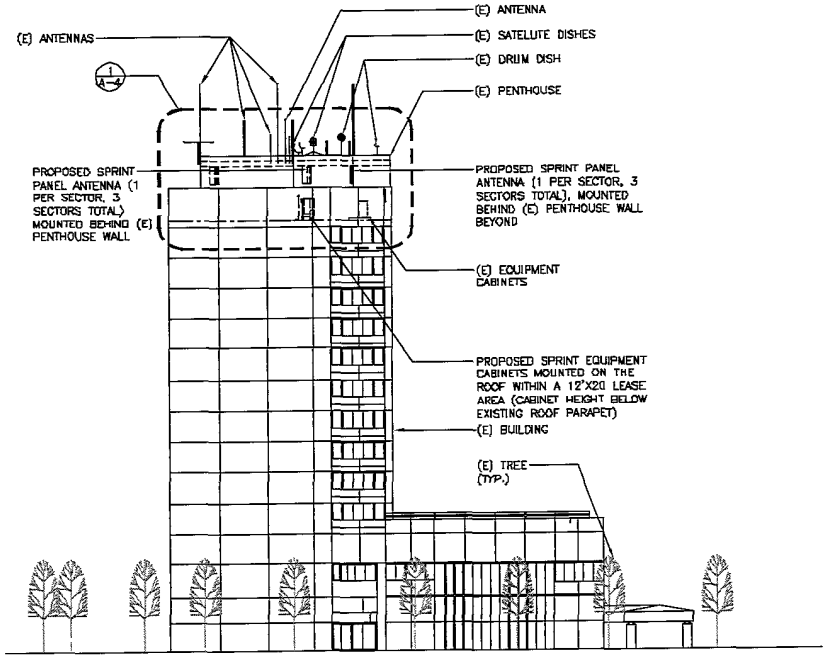
PROJECT NO:	SF60XC857-A
DRAWN BY:	JP
CHECKED BY:	RZ

REV	DATE	DESCRIPTION
0	12/18/03	90% ZONING
1	03/01/04	100% ZONING
2	04/23/04	100% ZONING REV.
3	08/25/04	100% ZONING REV. 2

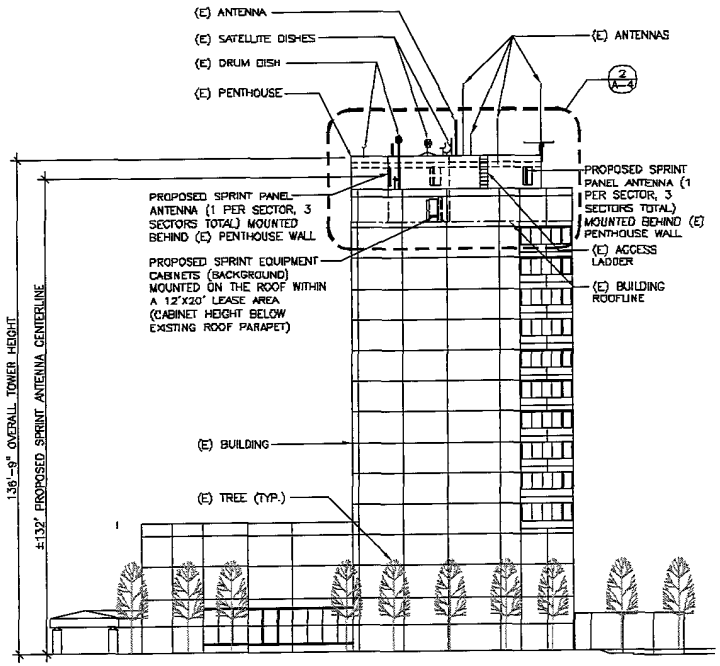
CROWNE PLAZA
SF60XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

SHEET TITLE
EQUIPMENT AREA PLAN / ANTENNA & EQUIPMENT LAYOUT

SHEET NUMBER
A-2



2 A3 SOUTHWEST ELEVATION
SCALE: 1/16"=1'-0"



1 A3 NORTHEAST ELEVATION
SCALE: 1/16"=1'-0"

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

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AUSCOM WIRELESS SERVICES, INC.
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Santa Ana San Diego San Francisco
www.msa-ap.com

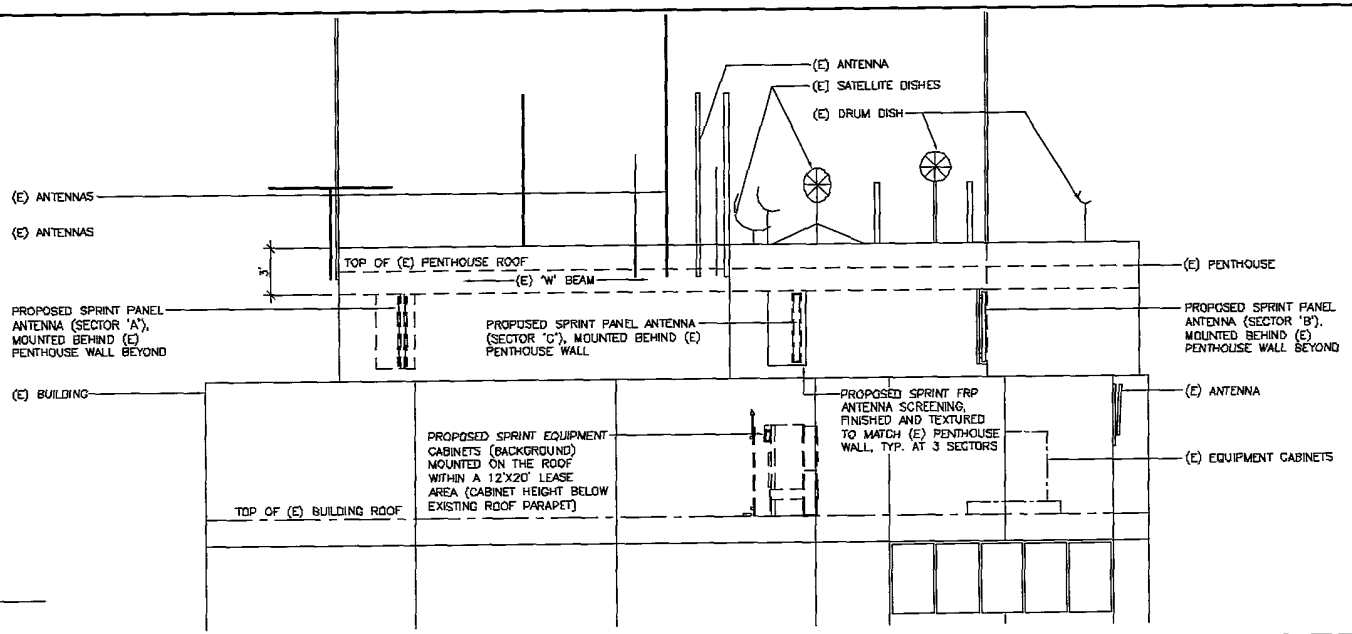
PROJECT NO:	SF80XC857-A
DRAWN BY:	JP
CHECKED BY:	RZ

REV	DATE	DESCRIPTION
0	12/18/03	80% ZONING
1	03/01/04	100% ZONING
2	04/21/04	100% ZONING REV.
3	08/25/04	100% ZONING REV. 2

CROWNE PLAZA
SF80XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

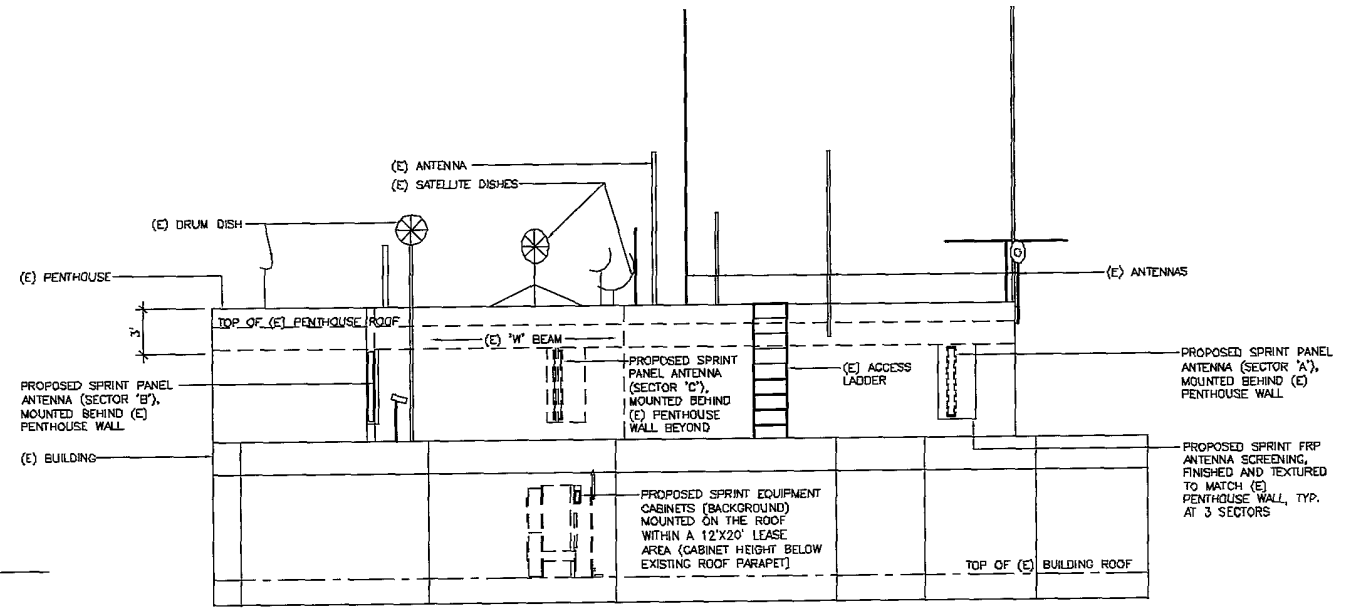
SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-3



1 / A4 SOUTHWEST ELEVATION

SCALE: 1/4"=1'-0"



2 / A4 NORTHEAST ELEVATION

SCALE: 1/4"=1'-0"

Sprint
6580 SPRINT PARKWAY
OVERLAND PARK, KANSAS 66251

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ALCOA WIRELESS SERVICES, INC
167 TECHNOLOGY DR.
IRVINE, CALIFORNIA 92618
Office (530) 263-4339
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San Francisco, Ca 94103
415 503.1363 fax 415 503.1362
Santa Ana San Diego San Francisco
www.msa-ap.com

PROJECT NO:	SF60XC857-A
DRAWN BY:	JP
CHECKED BY:	RZ

REV	DATE	DESCRIPTION
0	12/18/03	90% ZONING
1	03/01/04	100% ZONING
2	04/23/04	100% ZONING REV.
3	08/25/04	100% ZONING REV. 2

CROWNE PLAZA
SF60XC857-A
777 BELLEW DRIVE
MILPITAS, CA 95035
SANTA CLARA COUNTY

SHEET TITLE
ENLARGED PENTHOUSE ELEVATIONS

SHEET NUMBER
A-4